

## UNUSUAL FORM OF *OPUNTIA RAMOSISSIMA* ENGELMANN

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An interesting and evidently unique population of *Opuntia ramosissima* Engelmann (diamond cholla) has recently been observed in the middle reaches of Lee Canyon, in the Spring Mountains of Clark County, Nevada. The population was first noted at its upper limit, at around 5000 feet. Subsequent investigation shows that the range of this particular population is entirely west of Highway 93, between 3800 and 5300 feet on both sides of State Highway 156.<sup>2</sup>

This form of *O. ramosissima* is decidedly dwarf, as might be expected of a low-altitude plant somehow translocated to an elevation higher than the norm for the taxon. (Benson 1982 indicates 3000 feet as the upper limit of *O. ramosissima*.) The plant is low, even a mat-former; to describe it as a cactaceous *krumholz* would not be amiss.

If the morphology and other traits of the plants in this interesting population should prove to be different enough to warrant varietal status, I would suggest that names denoting low, small, or dwarf would all be appropriate for the form.

The plants tend to be only one or two joints tall (Fig. 1), but with abundant, rather tightly packed branches. Younger plants usually have heavy yellow-brown spination, but the older plants, sinuous and very woody, are almost entirely naked. The color of the joints is typically amethyst purple, although collected plants growing in pots in the greenhouse are pale green.

Clumps were encountered in habitat undoubtedly many years old; numerous dead clumps were also noted, invariably very old

plants. Plants, both living and dead, are sparse until around 5000 feet, when they become more abundant.

Reproduction appears to be sexual, but no very small seedlings were encountered. The clumps are almost always in the open; thus, it is not likely that the plant requires the aid of a nurse plant to germinate and become established.

Companion plants are those that are characteristic of the eastern Mojave Desert: *Yucca schidigera*, *Larrea tridentata*, *Echinocereus engelmannii*, *Echinocactus polycephalus*, and *Malva* sp. at the lower limit of the plant's distribution, progressing upward through *Opuntia acanthocarpa*, *O. multigeniculata*, *Tetrademia* ssp., *Chrysothamnus* ssp., *Atriplex* ssp., and *Ephedra* sp., with *Coleogyne ramosissima* and *Yucca brevifolia* var. *jaegeriana* dominant at the upper limit. *Coryphantha vivipara* var. *rosea*, which is relatively abundant in the higher reaches of the canyon, barely overlaps with *O. ramosissima* at the latter's upper limit. Of note also is that *Opuntia basilaris* occurs throughout the range of *O. ramosissima*, from the lowest elevations to the highest at which the taxon occurs.

Because individuals from this population have not been grown as yet under controlled conditions, it is not known whether the dwarf habit of the plants is an environmentally induced or a genetic trait. (Preliminary indications are that the size and form of the plant are genetically determined.) Cuttings from the population survived -25 F under snow in Boulder, Colorado, during the unseasonal cold of February 1989; so it appears likely

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<sup>2</sup>These interesting plants are not abundant in the area investigated. For example, when one stands at the location of one plant, it is unusual to see more than three or four other plants in the surrounding area. On the other hand, it is not rare either—many plants were discovered in the fifty or so acres surveyed.

Collection should be avoided, and it is indeed not necessary. I have supplied propagation material to the Nut House Nursery at Littlefield, Arizona, where interested persons can purchase established cuttings.

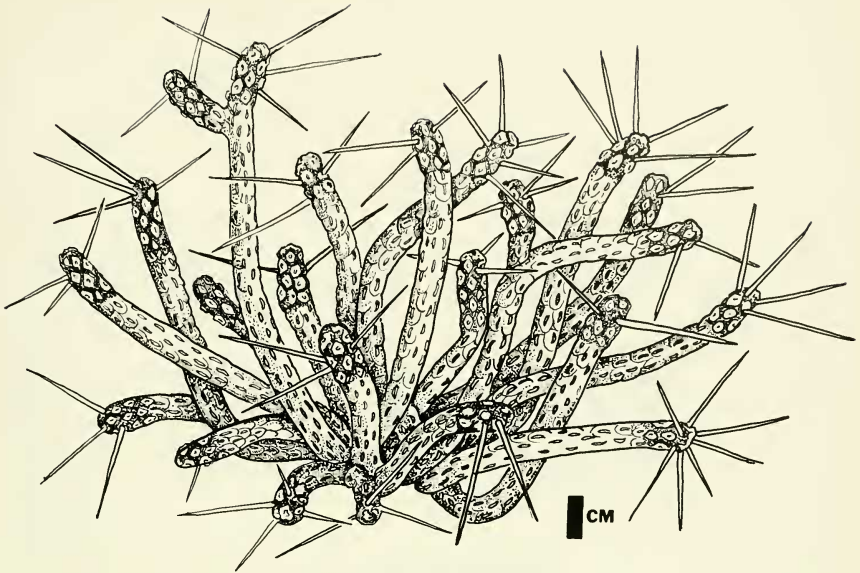


Fig. 1. *Opuntia ramosissima* Engelm.

that the high-altitude form has greater frost tolerance than those from the more typically low-altitude habitats favored by this taxon.

Still to be determined is the complete range of this form: it would be surprising if it did not occur elsewhere in the vicinity. An obvious place to look is nearby Kyle Canyon, but appropriate elevations should be checked throughout the Spring Mountains and other ranges of southern Clark County.

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